REMARKS/ARGUMENTS

Claims 18-29, 32, 35, and 38-46 are pending in the Application. Claim 35 is editorially amended to delete a repetitive phrase. Claims 38-46 are new. Claims 1-17 were previously cancelled. Claims 30-31, 33-34, and 36-37, which were withdrawn from further consideration by the Examiner as directed to an invention non-elected in response to a restriction requirement, are hereby cancelled without prejudice or disclaimer in favor of divisional prosecution.

New Claims 38-42 are supported in the Specification at page 23, paragraphs [0048-0049], and pages 26-27, paragraph [0055], and pages 113-115, paragraphs [234-236, Tables 1-3]. Specifically, page 23, lines 11-18, teaches that there must be an anisotropic difference resulting from at least one of the characteristics such as size, orientation, and quantity. Page 23, lines 19-22, supports new Claims 39 and 41. Page 23, lines 22-24, supports new Claims 40 and 42. The recitation of the aspect ratio of graphite composite powder (A) is found in original Claim 4 and paragraph [0055] of the Specification.

New Claims 43-46 are supported in the Specification at pages 69-70, paragraphs [0133-0136]. Specifically, paragraph [0133] describes graphitization of the graphite composite mixture of graphite composite powder (A) and artificial graphite powder (B); paragraph [0135] describes graphitization in an inactive or non-oxidative atmosphere; paragraph [0134] describes graphitization at a temperature of 2800-3200°C; paragraph [0134] describes graphitization at a temperature of 2800-3200°C in the presence of a graphitization catalyst; and paragraph [0134] describes graphitization at a temperature of 2800-3200°C in the presence of a graphitization catalyst selected from the group consisting of Si and B.

No new matter is added.

Claim Interpretation

Previously presented Claim 18 is directed to a graphite-composite mixture powder (C) comprising a graphite composite powder (A) in which a graphite (D) having an aspect ratio of 1.2-4.0 is compounded with a graphite (E) which has orientation different from the orientation of graphite (D); and an artificial graphite powder (B). However, the Specification at paragraphs [0133-0136] teaches the graphite composite mixture powder (C) is formed from the graphite composite mixture of (1) graphite composite powder (A) in which a graphite (D) having an aspect ratio of 1.2-4.0 is compounded with a graphite (E) which has orientation different from the orientation of graphite (D), and (2) an artificial graphite powder (B) by subjecting the graphite composite mixture to a process referred to as "graphitization" of the graphite composite mixture of graphite composite powder (A) and artificial graphite powder (B) at temperatures usually from 2800-3200°C in an inactive or non-oxidative atmosphere. To form the claimed graphite-composite mixture powder (C), it is necessary to subject the graphite-composite mixture to graphitization. Thus, interpreted in light of the Specification, the graphite-composite mixture powder (C) of previously presented Claim 18 reasonably cannot be so broadly interpreted as to encompass any mixture of graphite composite powder (A) and an artificial graphite powder (B). Rather, the graphite-composite mixture powder (C) of previously presented Claim 18 is a graphite composite mixture of graphite composite powder (A) and an artificial graphite powder (B) which has been subjected to "graphitization in an inactive or non-oxidative atmosphere", i.e., it is a graphitization mixture of graphite composite powder (A) and an artificial graphite powder (B).

During prosecution, claim language must be given its broadest reasonable interpretation. *In re Zletz*, 893 F.2d 319, 321-322 (Fed. Cir. 1989). However, that interpretation must always be consistent with the specification. *In re Suitco Surface, Inc.*, Appeal 2009-1418, decided April 14, 2010, page 8 (Fed. Cir. 2010); *Genentech, Inc. v.*

Chiron Corp., 112 F.3d 495, 501 (Fed. Cir. 1997); *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990); *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983). Interpreted in a manner consistent with the Specification, as it must, previously presented Claim 18 is directed to a negative-electrode material for a lithium secondary battery, comprising a graphite-composite mixture powder (C) that comprises is a graphite composite mixture of graphite composite powder (A) and an artificial graphite powder (B) which has been subjected to "graphitization in an inactive or non-oxidative atmosphere".

Nevertheless, to further clarify the scope and content of the subject matter Applicant claims, Applicant also presents new Claims 43-46 which expressly define the graphite composite mixture powder (C) as comprising a graphite composite mixture of a graphite composite powder (A) in which a graphite (D), whose aspect ratio is 1.2 or larger and 4.0 or smaller, compounded with a graphite (E), which has a crystal orientation different from the crystal orientation of said graphite (D), and an artificial graphite powder (B); wherein the graphite composite mixture of graphite composite powder (A) and the artificial graphite powder (B) is subjected to graphitization in an inactive or non-oxidative atmosphere.

New Claim 38 requires graphite (E) to have a crystal orientation different from the crystal orientation of graphite (D) and a characteristic size not anisotropically different from the characteristic size of said graphite (D). New Claim 38 also requires graphite composite powder (A) to have an aspect ratio of 1.1 or larger and 4.0 or smaller. New dependent Claims 39-42 require different crystal orientations for graphite (D) and graphite (E) comprising the graphite composite powder (A) of previously presented Claim 18 and new Claim 38.

Applicant's Specification teaches throughout that the characteristic size of the graphite (D) and graphite (E) components of graphite composite powder (A) may appear anisotropically the same or similar and still be capable of being compacted to a sufficient

density for use as a negative-electrode material for a lithium secondary battery if the crystal orientations of graphite (D) and graphite (E) forming graphite composite powder (A) are different. See the teaching in the Specification at pages 15-18 [0032-0037], pages 23-24 [0048-0049], pages 26-27 [0055-0056]; page 47, lines 8-12; pages 49-52 [0095-0102] and pages 112-115 [0233-0239]. The Specification instructs that "different orientations" and anisotropic patterns may be achieved if "there is any difference in at least one of the characteristics such as size, orientation, and quantity" (Spec., p. 23 [0048]). If the characteristic sizes and amounts of graphite (D) and graphite (E) are not anisotropically different, then the composite may be adequately compacted for use as a negative-electrode material for a lithium secondary battery if the crystal orientations of graphite (D) and graphite (E) forming graphite composite (A) are different. Accordingly, in new Claim 38, graphite (E) must have a crystal orientation different from the crystal orientation of graphite (D), graphite (E) must have a characteristic size not anisotropically different from the characteristic size of said graphite (D), graphite (D) has an aspect ratio is 1.2 or larger and 4.0 or smaller, and graphite composite powder (A) has an aspect ratio of 1.1 or larger and 4.0 or smaller.

Objections to the Abstract

The Examiner objected to the use of the term "excellent" and prior art-comparative language in the Abstract. Office Action dated July 12, 2010 (OA), page 2, paragraph 2. Attached hereto is a substitute Abstract which eliminates the term "excellent" throughout and changes the word "superior" to enhanced. The substitute Abstract should render the Examiner's objections to the Abstract moot.

Objections to the Specification

The Examiner required Applicant to review the entire Specification for informalities, i.e., "to determine the presence of all possible minor errors" (OA, p. 2, ¶ 3). Applicant has

reviewed the Specification in its entirety and found no significant or recognizable informalities and/or errors therein. Accordingly, we respectfully ask the Examiner either to specifically identify those minor errors of which the PTO is aware or withdraw the objection. At this time, there appear to be no errors which require correction.

Rejections of Claims 18-22, 24-26, 28-29, 32 & 35 under § 103 over Zou in view of Toshiya

Previously presented Claims 18-22, 24-26, 28-29, 32, and 35 were rejected under 35 U.S.C. § 103 over Zou (US 2004/0229125 A1, published November 18, 2004) in view of Toshiya (JP 2002-175810, published June 21, 2002)(OA, p. 3, ¶ 5). In light of our current explanation of the proper interpretation to be given previously presented Claim 18 and new Claims 38-46, the Examiner's rejections should be withdrawn.

According to the Examiner, Zou teaches a negative-electrode for a lithium ion rechargeable battery. As the negative-electrode active material, Zou teaches a mixture of Graphite A and Graphite B. Graphite A has an average diameter of 10-40 μm. Graphite B has an average diameter of 5-30 μm. Graphite A comprises a graphite granule core coated with a carbon coating. (OA, p. 3, ¶ 5; Zou, Claims 1-5). The Examiner recognizes (OA, p. 3, ¶ 5), "However, Zou . . . does not disclose Graphite A as having a graphite with an aspect ratio between 1.2-4 and compounded with a graphite which has different orientation." Accordingly, the Examiner relies on Toshiya to supply Zou's deficiencies.

The Examiner finds (OA, pp. 3-4, bridging ¶; emphasis added):

> Toshiya discloses an anode material for a lithium secondary battery comprising a graphite composite mixture powder comprising a scaly carbon (a natural graphite-Paragraph 13) with an aspect ratio greater than 1 and less than 6 (more preferably less than 3-Paragraph 11) and a spherical substance such as meso carbon beads, glassy carbon (Paragraph 27). By having a graphite covered by a spherical substance the orientation of the spherical substance is different from the graphite core (Paragraph 10). Toshiya teaches this composite graphite material has sufficient hardness and adhesiveness (Paragraph 7).

Based on Zou's disclosure, the Examiner concludes that "it would have been obvious to . . . replace graphite A of Zou . . . with the graphite material of Toshiya to ensure sufficient hardness and adhesiveness of the active material" (OA, p. 4, 1st full sentence).

First, the graphite-composite mixture powder (C) which forms the negative-electrode materials of previously presented independent Claim 18, and of new Claims 38 and 43, is a mixture of the graphite composite powder (A) and the artificial graphite powder (B) which is, or has been, subjected to "graphitization". Applicant's Specification teaches [0133; emphasis added]:

> <u>[G]raphitization is carried out on the graphite composite mixture</u> after calcination. The graphitization is performed in order <u>to improve crystallinity</u> in order to increase discharging capacity measured in battery evaluation. <u>After the graphitization, the graphite-composite mixture powder (C)(the negative-electrode material (I) of the present invention) is obtained</u>.

Applicant's Specification describes "graphitization" at paragraphs [0133-0136] and specifically explains "graphitization" at [0134] as follows:

> Temperature condition of the graphitization is not limited particularly, although being within the range of usually 2800°C or higher, preferably 3000°C or higher and usually 3200°C or lower, preferably 3100°C or lower.

In example, the Specification teaches at [0172] that "the powder calcined was transferred to a graphite crucible and graphitized at 3000°C for 5 hours under an inactive atmosphere using a direct current applied kiln to give a graphite-composite mixture powder (C)(negative electrode material of Example 1)."

Accordingly, the differences between the graphite-composite mixture powder (C) of previously presented Claim 18, and of new Claims 38 and 43, and the graphite-composite mixtures describes in Toshiya and Zou should be immediately apparent. Consider the following.

The Examiner finds (OA, pp. 3-4, ¶ %) that Toshiya describes a graphite composite mixture powder prepared by covering scale-like graphite <u>covered</u> with a carbonaceous

material (Toshiya, paragraph 13) which may be natural or artificial and spherical, e.g., meso carbon beads (Toshiya, paragraph 27), for use as a negative-electrode material for a lithium secondary battery. The core scale-like graphite may have an aspect ratio between 1.0 and 6.0, and it appears to be coated with a carbonaceous material which has a different size orientation (Toshiya, paragraphs 11 and 13). The Examiner appears to suggest that Toshiya's core scale-like graphite corresponds to graphite (D) of Applicant's graphite composite powder (A) and that Toshiya's carbonaceous coating material appears to correspond to graphite (E) of Applicant's graphite composite powder (A).

Therefore, although Toshiya appears to teach that its composite may be graphitized or heated at temperatures up to 3200°C (Toshiya [0015-0016]), Toshiya does not describe graphitization of a graphite composite mixture. Rather, Toshiya suggests heating and/or reheating a core which is coated with a carbonaceous material or bead at an elevated temperature up to 3200°C. Toshiya's composite is not a graphite composite mixture which is necessarily graphitized as required by Applicant's claims.

Moreover, Toshiya's composite appears to lack either Applicant's graphite component (E) or Applicant's artificial graphite powder (B). Toshiya's composite does not comprise Applicant's graphite composite powder (A) comprising graphite (D) compounded with graphite (E), and an artificial graphite powder (B).

On the other hand, Zou describes a negative-electrode material comprising a mixture of larger graphite granules A and smaller graphite granules B in the same or different relative amounts (Zou, Claims 1-4 and 6-8), preferably a graphite granular composite prepared by covering larger graphite granules A with smaller graphite granules B (Zou, Claims 5 and 9) and heating the composite to 1000°C (Zou [0032]). Zou does not heat its composite at a temperature suitable fro graphitization, i.e., from 2800-3200°C, and does not suggest mixing three different graphite materials corresponding to Applicant's graphite (D), graphite (E), and

graphite (B) to together prior to graphitization. Zou preferably covers a granular carbon material with an granular artificial graphite and sinters the composite at around 1000°C. Zou's composite is never graphitized to form a graphite-composite mixture powder (C) of Applicant's claims. And, Zou does not mention the aspect ratios of its graphite materials.

Nevertheless, the Examiner argues that it would have been obvious to persons having ordinary skill in the art "to replace graphite A of Zou . . . with the graphite material of Toshiya to ensure sufficient hardness and adhesiveness of the active material to the current collector" (OA, p. 4, lines 1-4).

The basic problem with the Examiner's case for obviousness is, even if persons having ordinary skill in the art would have contemplated using Toshiya's graphitized composite as Zou's graphite A, Applicant's graphite-composite mixture powder (C) still would not be produced. Applicant's graphite-composite mixture powder (C) is the graphitization product of:

(1) graphite composite powder (A) in which a graphite (D), whose aspect ratio is 1.2 or larger and 4.0 or smaller, compounded with a graphite (E), which has orientation different from orientation of said graphite (D); <u>and</u>

(2) an artificial graphite (B).

Zou never heats his composite of graphite granules A and graphite granules B to a temperature sufficient for graphitization. Moreover, the combined teachings of Zou and Toshiya would not have resulted in the graphite-composite mixture powder of Applicant's claims. Rather, artificial graphite powder (B) would preferably coat a core of Toshiya's composite.

Naruto and Sato to not remedy any of the deficiencies in the combined teachings of Zou and Toshiya. Neither additional reference describes or suggests graphitization of a graphite composite.

While the Examiner suggests that persons having ordinary skill in the art would likely conceive or imagine the possibility of replacing Zou's graphite A with Toshiya's composite, the replacement not only would not produce the graphite-composite mixture powder (C) which forms Applicant's claimed negative electrode without mixing and graphitization. Moreover, conception itself is not obviousness. For a conclusion of obviousness, the prior art must reasonably teach or suggest the claimed subject matter to a persons having ordinary skill in the art and enable one skilled in the art to make and use it with a reasonable expectation of success and without undue experimentation. *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988). The prior art must lead the person having ordinary skill in the art to reasonably expect that the claimed subject matter should be made and used and could successfully be made and used without undue experimentation. *In re O'Farrell*, 853 F.2d at 903; *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988); *Merck & Co., v. Biochraft Laboratories, Inc.*, 874 F. 2d 804, 809 (Fed. Cir.1989). Thus, the prior art must also enable one skilled in the art to make and use the disclosed and claimed subject matter to sustain a rejection for obviousness under 35 U.S.C. § 103. *In re Hoeksema*, 399 F.2d 269, 274 (CCPA 1968).

Here, the cited prior art references do not reasonably teach or suggest the negative-electrode materials described in Applicant's claims and their unexpected properties. This is especially true for new Claims 43-46 which expressly require that the graphite composite mixture of the graphite composite powder (A) and the artificial graphite powder (B) is subjected to graphitization in an inactive or non-oxidative atmosphere at a temperature ranging from 2800-3200°C.

New Claims 38-42 provide an additional basis for their patentability. Toshiya's carbon composite mixture powder (C) is not the graphite composite powder (A) of Applicant's new Claim 38. Toshiya's carbon composite mixture powder comprises a "scale-like carbon nature substance, and a spherical substance . . . together in the . . . negative

electrode" (Toshiya [0010]). Toshiya teaches that the scale-like carbon substance and the spherical-shaped carbon substance have different orientations because of their different sizes, i.e., dimensions and shapes. "A piece of scale-like carbon nature substance has shape anisotropy, and the shape is usually plate-like." (Toshiya, p. 6, 2nd full sentence). Its aspect ratio is generally from 1.1 to 6.0 (Toshiya [0011]). On the other hand, Toshiya teaches (Toshiya [0027]; emphasis added):

> [[T]he spherical substance contained in a negative electrode with a piece of scale-like carbon nature substance] it is what <u>hardly has shape anisotropy</u> -- the aspect ratio (ratio of a longest diameter and the diameter of the shortest) -- usually -- 1.5 or less . . . 1.1 or more . . . .]

Toshiya teaches that its negative electrode performs efficiently when a spherical substance with the mentioned aspect ratio range, i.e., having very little shape anisotropy, is mixed with a natural scale-like carbon substance (Toshiya [0027]) having shape anisotropy. Applicant's Claims 38-42 claim nothing of the kind.

In new Claim 38, graphite (E) must have a crystal orientation different from the crystal orientation of graphite (D) and a characteristic size not anisotropically different from the characteristic size of said graphite (D). Persons having ordinary skill in the art would immediately have recognized that Toshiya's spherically shaped carbon substance does not have the characteristic size of Toshiya's scale-like or plate-like carbon substance. Toshiya's mixed graphites have significantly different size anisotropies.

Applicant's Specification recognizes and teaches that carbon substances may have different orientations based on size anisotropies (Spec., pp. 23-24) and those different orientations enable production of compact, extremely dense graphite-composite mixtures suitable for production of negative-electrode material for lithium secondary batteries. However, unlike Toshiya's more limited disclosure, Applicant discovered that compact, extremely dense graphite-composite mixtures suitable for production of negative-electrode material for lithium secondary batteries also can be produced by mixing graphites having

substantially the same or similar sizes, and thus substantially the same or similar size anisotropy, by mixing graphites which have different crystal orientations because of factors unrelated to differences in size anisotropy. For example, Applicant shows that different crystal orientations of the kind described in Applicant's Specification at pages 23-24 [0048-0049] and new Claims 39-42 may be produced by the alternative new methods of production described in the Specification at pages 51-60 [0098-0136] or by mechanical treatment (Spec., p. 18 [0037]).

Aside from producing suitable electrode material from mixtures of graphites having different sizes, and different orientations resulting therefrom, neither Zou nor Toshiya recognized or understood that graphites with different orientations and different anisotropies which are not attributable to different size anisotropies also could be effectively mixed and compacted to form extremely dense graphite-composite mixtures suitable for production of negative-electrode material for lithium secondary batteries. Applicant's current new Claims 38-42 now more clearly and specifically claim that aspect Applicant's invention. The negative-electrode materials described in new Claims 38-42 are not suggested by the combined teachings of Zou and Toshiya or enabled with any reasonable expectation of success. At best, Zou and Toshiya would have taught persons having ordinary skill in the art that differences in crystal orientation and anisotropy caused by size differences, i.e., different dimensions and shapes, in mixed graphites are critical for producing a negative electrode material for lithium secondary batteries. Applicant has unexpectedly discovered that graphite-composite mixture powders formed from graphites having differences in the crystal orientation and anisotropy based on factors other than size also may be used to produce effective negative-electrode materials for lithium secondary batteries. The invention defined by new Claims 38-42 clearly would not have been obvious to the ordinary artisan in view of the combined teachings of Zou and Toshiya.

Thus, the applied prior art does not teach, suggest, motivate, or enable persons having ordinary skill in the art to make and use any of the negative-electrode material Applicant claims with any reasonable expectation of success as is required for a conclusion of obviousness over enabling prior art. *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988); *In re Hoeksema*, 399 F.2d 269, 274 (CCPA 1968).

The Examiner's references to additional teachings in Zou and Toshiya specifically relating to previously presented Claims 20-22, 24-25, and 28-29 raise further doubts as to the conclusion of obviousness. First, the Examiner appears to find that Toshiya discloses a narrower range within the broader range of the aspect ratio indicated for graphite composite powder (A) in Applicant's previously presented Claim 21. Applicant believes that the Examiner has misunderstood the significance of the aspect ratio range required in previously presented Claim 21 and now also included in new Claim 38. The aspect ratio range of 1.1-4.0 for the graphite composite powder (A) of previously presented Claim 21 and new Claim 38 is only slightly broader than the aspect ratio range of 1.2-4.0 for the graphite (D) comprising graphite composite powder (A). What this substantial similarity means is the aspect ratio range of 1.2-4.0 for the graphite (D) is substantially, characteristically, and anisotropically the same as the aspect ratio range for the graphite (E). Otherwise, graphite composite powder (A) would not have an aspect ratio range which is substantially the same as the aspect ration range for graphite (D). Because one graphite forming Toshiya's graphite composite powder is scale-like and the other is spherical (Toshiya defines the aspect ratio as the "ratio of a longest diameter and the diameter of the shortest" (Toshiya [0027])), ordinary artisans reasonably would not have expected that the aspect ratio for Toshiya's graphite composite powder would be substantially the same as the aspect ratio for either of Toshiya component scale-like or spherical graphites.

Moreover, when discussing previously presented Claim 24, which specifically limits the amounts of graphite (D) in the graphite composite powder (A)(OA, p. 5, 1st full ¶), the Examiner acknowledges that Toshiya does not indicate that the ratio of the amount of scale-like carbon substance to spherical carbon substance is critical for production of its composite graphite mixture. In fact, Toshiya suggests that proportion extremes are undesirable and that a 50% ratio of scale-like carbon substance to spherical carbon substance is most preferred (Toshiya [0031]). Accordingly, ordinary artisans would not have expected the aspect ratio range for either of Toshiya's carbon substance components to be substantially the same or similar to the aspect ratio range of the graphite composite powder. In addition, Toshiya does not recognize or appear to understand that the component amounts of different carbon substances comprising a graphite composite alone may affect orientation and anisotropy differences.

With regard to previously presented Claim 22, the Examiner finds (OA, pp. 4-5, bridging ¶), "[I]t is the position of the examiner that this [tap density] is expected to be inherent to the powder since the particle diameter, the BET surface area and the aspect ratio of the material fall within the claimed range and since the taping [sic] density is related to the shape and size of the particles." With regard to previously presented Claims 20, 28, and 29, the Examiner finds (OA, p. 4, 1st full ¶), "It is expected that composite mixture C has a similar tap density , BET and interlayer spacing, electrode density and discharging capacity as claimed since composite mixture C is made of Graphite A of Toshiya and Graphite B of Zou et al." Whatever support Toshiya and Zou may have provided for the Examiner's findings of inherency and expectations of identity based on the related sizes of the particles in the prior art mixtures to the sizes of the graphites forming the mixtures of Applicant's previously presented claims necessarily fails because the sizes of Graphite (D) and Graphite (E), and composite Graphite (A) and Graphite (C) formed therefrom, in new Claims 38-42

differ significantly from that described in Toshiya and Zou, and significantly, the graphite-composite mixture powders (C) which form the negative electrode material of each and every one of Applicant's previously presented and new claims is produced by graphitization of a graphite composite powder (A) and an artificial graphite composite powder (B), usually at temperatures ranging from 2800-3200°C. Accordingly, the Examiner's findings of inherency and identity based on the similar sizes of the graphites in prior art mixtures which are not graphitized simply cannot stand. Findings of inherency should never be based on possibilities or probabilities.

In re Oelrich, 666 F.2d 578, 581 (CCPA 1981), instructs that the mere fact that a certain thing may result from a given set of circumstances is not sufficient to prove inherency. Inherency may not be established by probabilities or possibilities. Something that is inherent must inevitably be the result each and every time. The fact that a certain result or characteristic may occur or may be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations omitted).

Applicant's current claims are patentably distinct and unobvious over the applied prior art. It is respectfully submitted that the previous rejections under 35 U.S.C. § 103 over Zou and Toshiya do not apply to Applicant's previously presented and new claims.

Rejections of Claims 23 and 27 under 35 U.S.C. § 103

Previously presented Claim 23 was rejected under 35 U.S.C. § 103 over Zou in view of Toshiya and Sato (US 2003/0134201 A1, published July 17, 2003)(OA, pp. 5-6, ¶ 6). Previously presented Claim 27 was rejected under 35 U.S.C. § 103 over Zou in view of Toshiya and Takashi (JP 2001-236950, published August 31, 2001)(OA, pp. 6-7, ¶ 7). The rejections do not apply to Applicant's current claims.

Whether or not it would have been obvious to persons having ordinary skill in the art to optimize the BET surface area of Zou's Graphite B in view of Sato's teaching is immaterial to the patentability of Applicant's current claims. The currently claimed negative-electrode materials and their properties do not resemble the negative-electrode materials taught by either Zou or Toshiya and would not have been obvious to a person having ordinary skill in the art over the combination of the two. Sato does not remedy the deficiencies of Zou and Toshiya with respect to any of Applicant's current claims. Most significantly, Sato does not produce a graphite-composite mixture powder (C) by graphitization.

Nor does Takashi remedy the deficiencies of Zou and Toshiya with respect to Applicant's currently claimed materials. Takashi would have taught persons having ordinary skill in the art that different kinds and amounts of natural scale-like graphites may be combined to form the scale-like carbon substance in graphite composites. However, Takashi does not teach or reasonably suggest to the ordinary artisan that the different kinds and amounts of scale-like graphites have different orientations or distinct anisotropic structures which are not based on characteristic size. And, Takashi also does not produce a graphitized graphite-composite mixture powder (C).

For the reasons stated herein, Applicant's current claims are patentable over the applied prior art, and otherwise in condition for allowance. Accordingly, early Notice of Allowance is requested.

Respectfully submitted,

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